CODE BASICS

Data Visualization Guide

For Impactful Storytelling

DATA VISUALIZATION:

Who Doesn't Love A Good Story? But Did You Know Even Boring Rows And Columns Can Convey A Beautiful Story?

That's where the magic of data visualization comes into play.

Data visualization is the process of converting raw information (text, numbers, or symbols) into a graphical format.

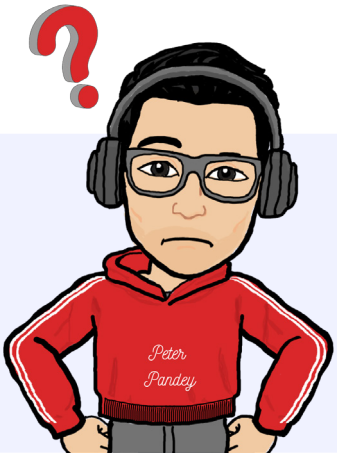
Raw Data

Dashboard

Data visualization aids in conveying insights clearly to stakeholders. Therefore, selecting the right visual is crucial in conveying the correct insights.

WHAT IS EFFECTIVE VISUALIZATION, AND WHY DO WE NEED IT?

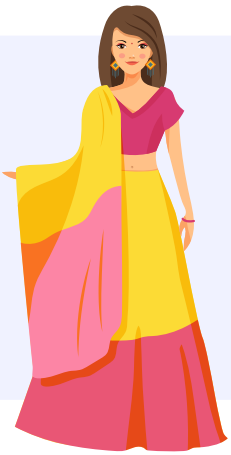
> Why can't we use the same chart every time?



Let's understand through a simple analogy:

Consider the following questions:

- When you go to school, what type of dress do you wear?
- When you go to a party, what type of dress do you wear?
- When you go to the temple, what type of dress do you wear?



The type of dress you wear changes according to the occasion, right? Similarly, based on the insights we want to display, the visuals we use vary.

The practice of using appropriate visuals to convey insights easily and accurately to stakeholders is called **effective visualization**.

KEY CHARTS IN DATA VISUALIZATION AND THEIR FUNCTIONS:

Bar and Column:

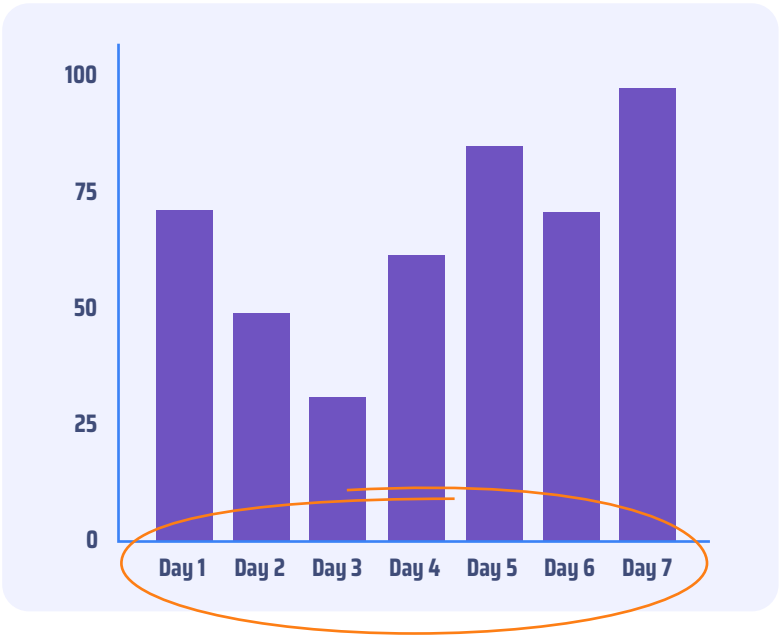
A bar chart represents **categorical data** with rectangular bars, their heights being proportional to the values displayed.

Best for: Comparing values across different **categories** or groups.

Types of Bar charts:

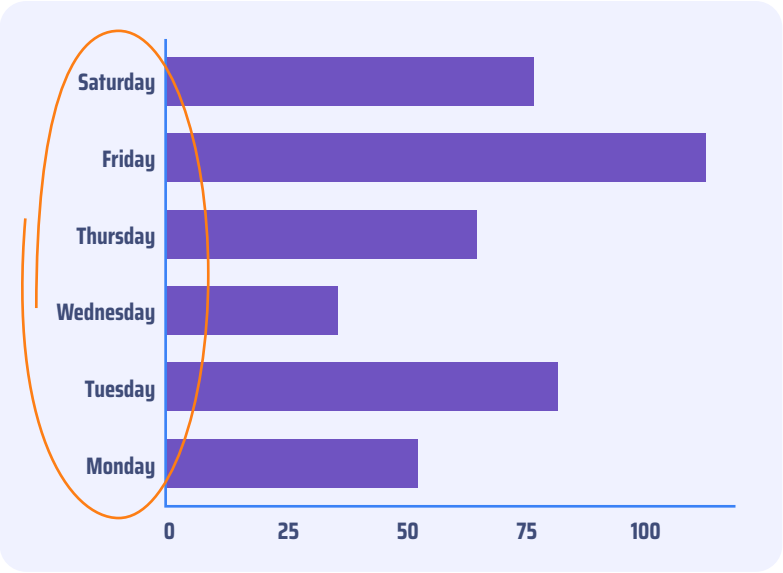
Vertical / Column Chart:

Use vertical charts for **small data labels.**



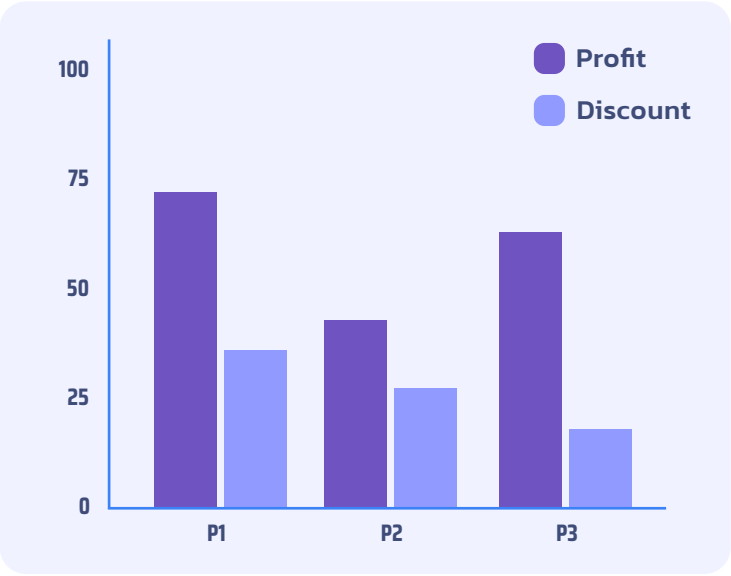
Horizontal / Bar Chart:

Use horizontal charts to fit **long data labels.**



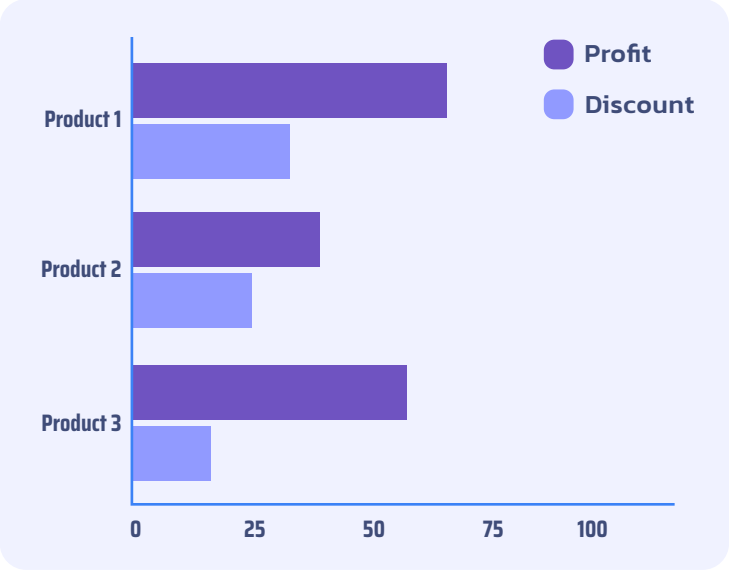
Clustered Column Chart:

Used to compare **multiple data series** within the same category.



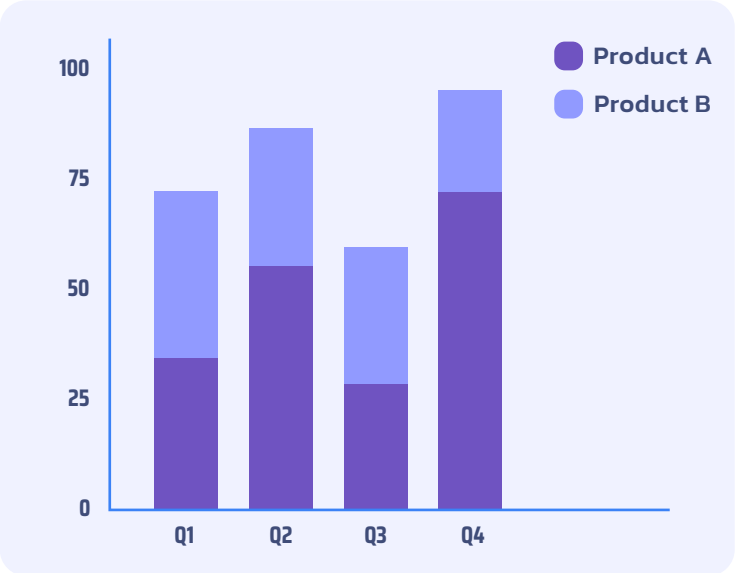
Clustered Bar Chart:

Similar to a clustered bar chart, it is particularly effective for handling **long data labels** that require more horizontal space.



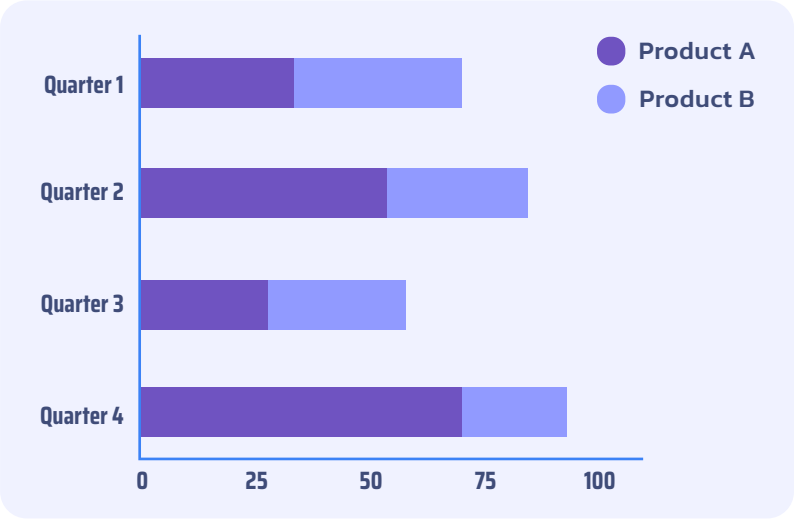
Stacked Column Chart:

Used to show **total values and their individual** breakdowns simultaneously.



Stacked Bar Chart:

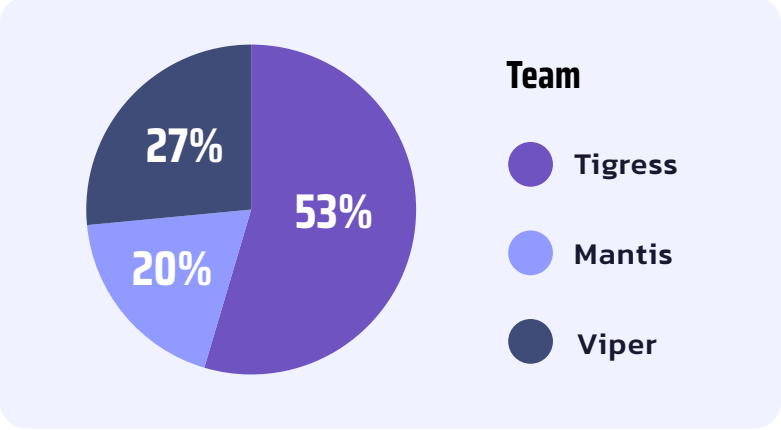
Similar to a stacked bar chart, it is particularly effective for handling **long data labels** that require more horizontal space.



Pie Chart:

A pie chart is a circular graph divided into slices to represent the proportional sizes of different categories within a whole.

Best for: showing the **proportions** of a whole when you have a small number of **categorical labels** (usually less than four).



Doughnut Chart:

A variation of the pie chart. Used to compare proportions among different categories.

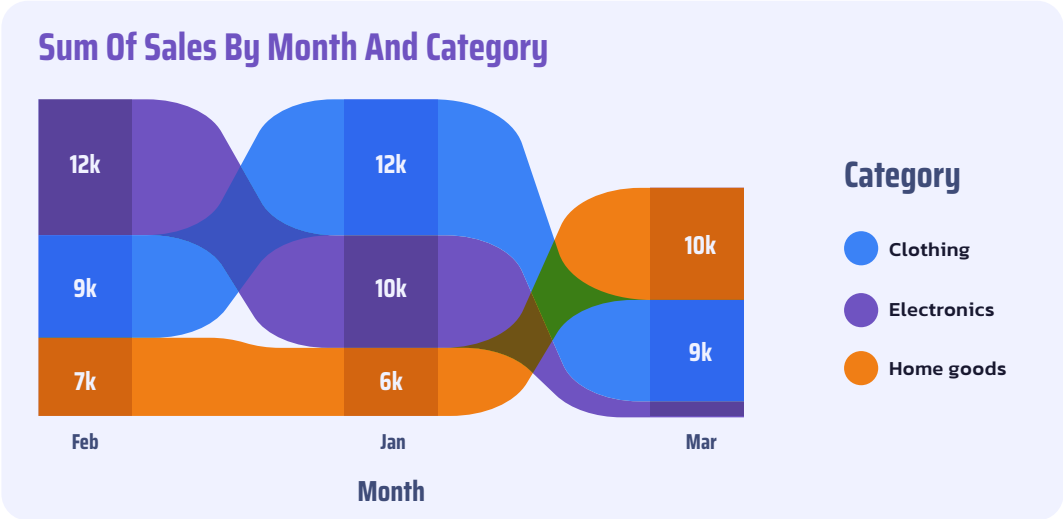
Best for: Comparing **a segment to the whole,** rather than comparing individual segments among themselves.

Ribbon Chart:

A ribbon chart is a variation of a stacked column chart, used to display multiple series of data as areas stacked on top of each other.

Best for: Showing the **composition of a whole over time** and the **trend change** over the composition.

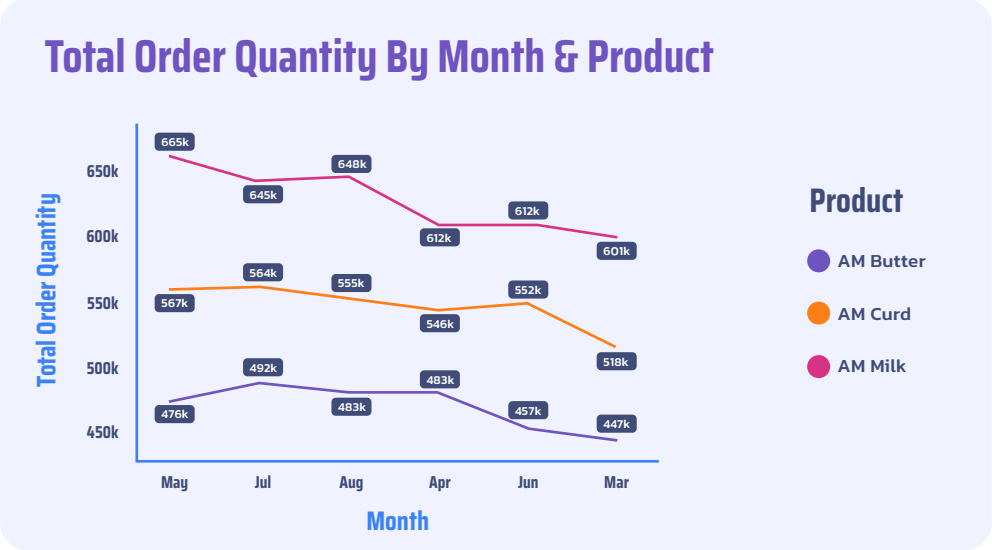
The Ribbon Chart displays how each **data category ranks and changes over time,** which can be difficult to see in a stacked column chart.



Line Chart:

A line chart is a type of graph that displays information as a series of data points connected by straight line segments.

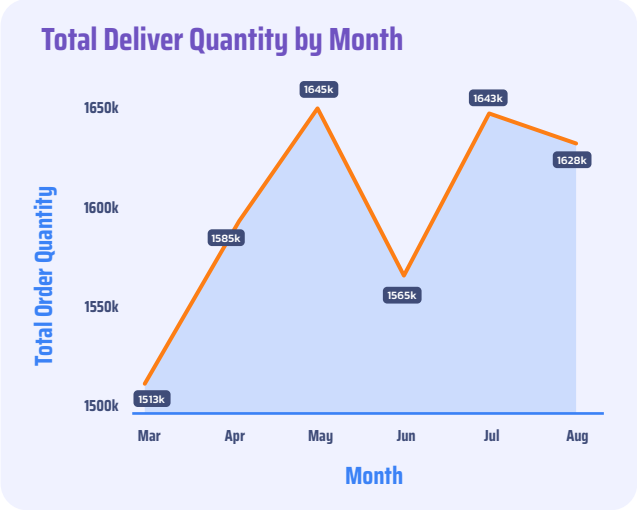
Best for: Comparing the value of an object **over time**, or to understand the **trend of values over time.**



Area Chart:

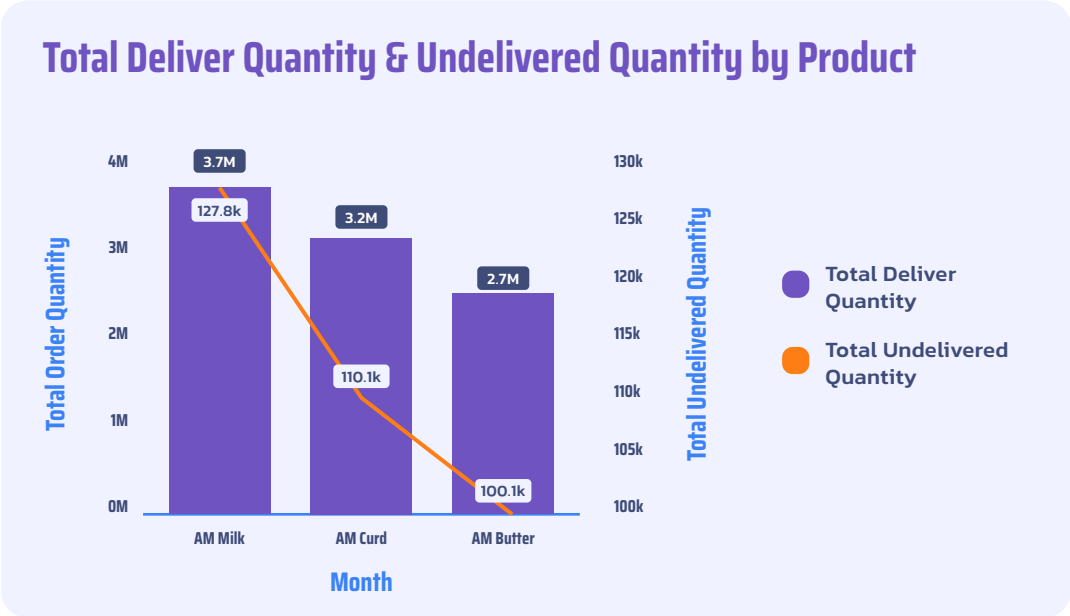
An area chart is similar to a line chart, but the area below the line is filled with specific colours.

Best for: Drawing attention to the **total volume across a trend** rather than to individual values.



Line Chart with Bar Charts:

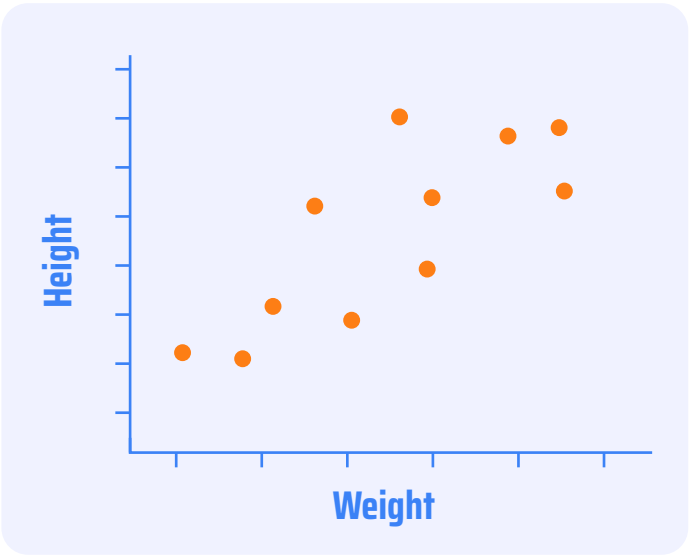
Line graphs are often combined with bar charts to represent data across **multiple dimensions.**



Scatter Plot:

A scatter chart plots data points for two variables as dots on a Cartesian plane, revealing their relationship.

Best for: Illustrating the relationship and **correlation between two numerical variables,** identifying trends, patterns, and potential outliers in data sets.



Funnel Chart:

A funnel chart is a graphical representation used to visualize the progressive reduction of data as it passes through phases.

Best for: Showing **narrowing correlations** between different groups of items.

Heatmap:

A heatmap is a graphical representation of data where values in a matrix are represented as colours. It can be used for both numeric data and categorical data.

Best for: **Colour-scaling data** to accurately represent and convey its nature and insights.

Plan	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
P1	₹396M	₹503M	₹466M	₹448M	₹536M	₹628M	₹620M	₹603M
P2	₹296M	₹503M	₹466M	₹448M	₹536M	₹628M	₹620M	₹603M
P3	₹296M	₹349M	₹353M	₹321M	₹304M	₹341M	₹335M	₹317M
P4	₹243M	₹280M	₹274M	₹278M	₹200M	₹237M	₹229M	₹212M
P5	₹216M	₹285M	₹258M	₹246M	₹144M	₹172M	₹179M	₹157M
P6	₹168M	₹197M	₹199M	₹187M	₹109M	₹135M	₹126M	₹125M
P7	₹123M	₹158M	₹156M	₹146M	₹33M	₹35M	₹45M	₹43M
P8	₹94M	₹120M	₹111M	₹110M				
P9	₹52M	₹59M	₹57M	₹58M				
P10	₹23M	₹37M	₹34M	₹38M				
P11					₹414M	₹486M	₹478M	₹482M
P12					₹255M	₹300M	₹306M	₹300M
P13					₹72M	₹82M	₹82M	₹79M

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